PHOTOGRAPHIC INTERPRETATION REPORT

TTMTC LAUNCH COMPLEX C TRACKING FACILITY USSR

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TTMTC LAUNCH COMPLEX C TRACKING FACILITY USSR

NOVEMBER 1967

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

INTRODUCTION

This report is in response to NSA requirement NSA/SOC/R24-68, which requests a detailed examination of TTMTC Launch Complex C Tracking Facility to confirm the existence of SHIP WHEEL radars. A number of antenna positions and pedestals were identified on which a SHIP WHEEL/FIRE WHEEL dish could be mounted; however, no antennas could be specifically identified as SHIP WHEEL/FIRE WHEEL radars. This report provides a detailed analysis of all known electronics components at TTMTC Launch Complex C (Figure 1).

Launch Complex C Tracking Facility (Figures 2 and 3) is approximately 0.5 nautical miles (nm) west of Pad C1. This secured facility contains approximately 17 buildings, 2 buried tanks, and numerous vehicles and pieces of equipment. Two buildings are under construction near the northwest end of the facility. The security fence has been removed in this area. Construction of these buildings was first observed on Mission [redacted] and was in a mid stage of construction on Mission [redacted]

A large L-shaped control building is in the southeast corner of the secured area. This building is connected to the launch area by a buried cable. Three antenna positions are on the roof of the control building and a small adjoining structure is a probable optical tracking equipment environmental shelter. Two horizontal dipole antennas are in the open field west of the control building. Feed lines lead toward a small building on the west side of the control building and which is partly obscured by trees. These antennas could be used to communicate with both the downrange and rangehead facilities.

A large instrumentation building is near the northwest end of the secured area. This building has 9 antenna positions on its roof. On Mission [redacted] the most current large-scale coverage over this area, 4 and a probable fifth position were occupied by antennas of unidentified configuration. Directly north of the instrumentation building, and connected to it by buried cables, are 5 antenna pedestals. Available coverage does not permit identification of the antennas mounted on these pedestals. The instrumentation building and the 5 pedestals north of it are angled slightly in relation to the normal launch azimuths so the roof-mounted arrays and the antennas on the pedestals have an unobstructed view of a launch vehicle during most phases of a tracking sequence.

East of the instrumentation building are 2 probable large antenna pedestals. These 2 pedestals differ in size and shape, and nothing definite can be stated about their function due to lack of large-scale coverage.

Other buildings in the facility cannot be functionally identified. All other support functions including housing, heating and power, motor pool, recreation, and supply, are in the Complex C Support Area which is approximately 100 yards south of the Tracking Facility.

Approximately 1 nm north is an interferometer/range-rate device (Figure 4). This device consists of a square secured area with 2 prepared hardstands in each corner of the square and 1 hardstand in the center of the square. During operations, these hardstands are occupied by trailer-mounted antenna pedestals and associated vans. Two large control/support buildings and several small structures are near the center of the square. On Mission [redacted] the center hardstand was occupied by a mobile pedestal with 2 vans and a vehicle parked nearby, and 4 vans and mobile pedestals were parked just south of the center hardstand. The orientation

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FIGURE 2. LAUNCH COMPLEX C TRACKING FACILITY.

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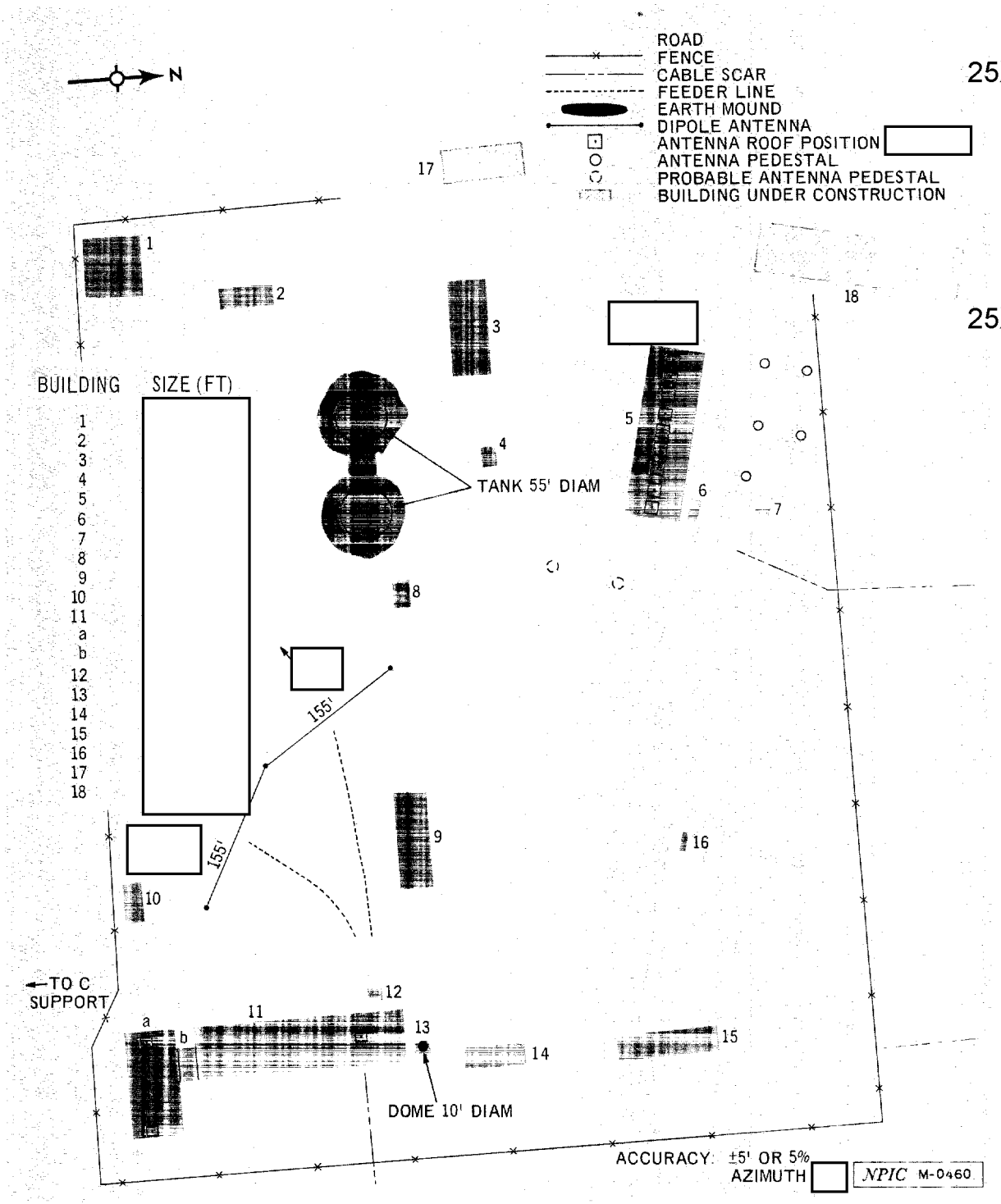

FIGURE 3. LAYOUT OF LAUNCH COMPLEX C TRACKING FACILITY.

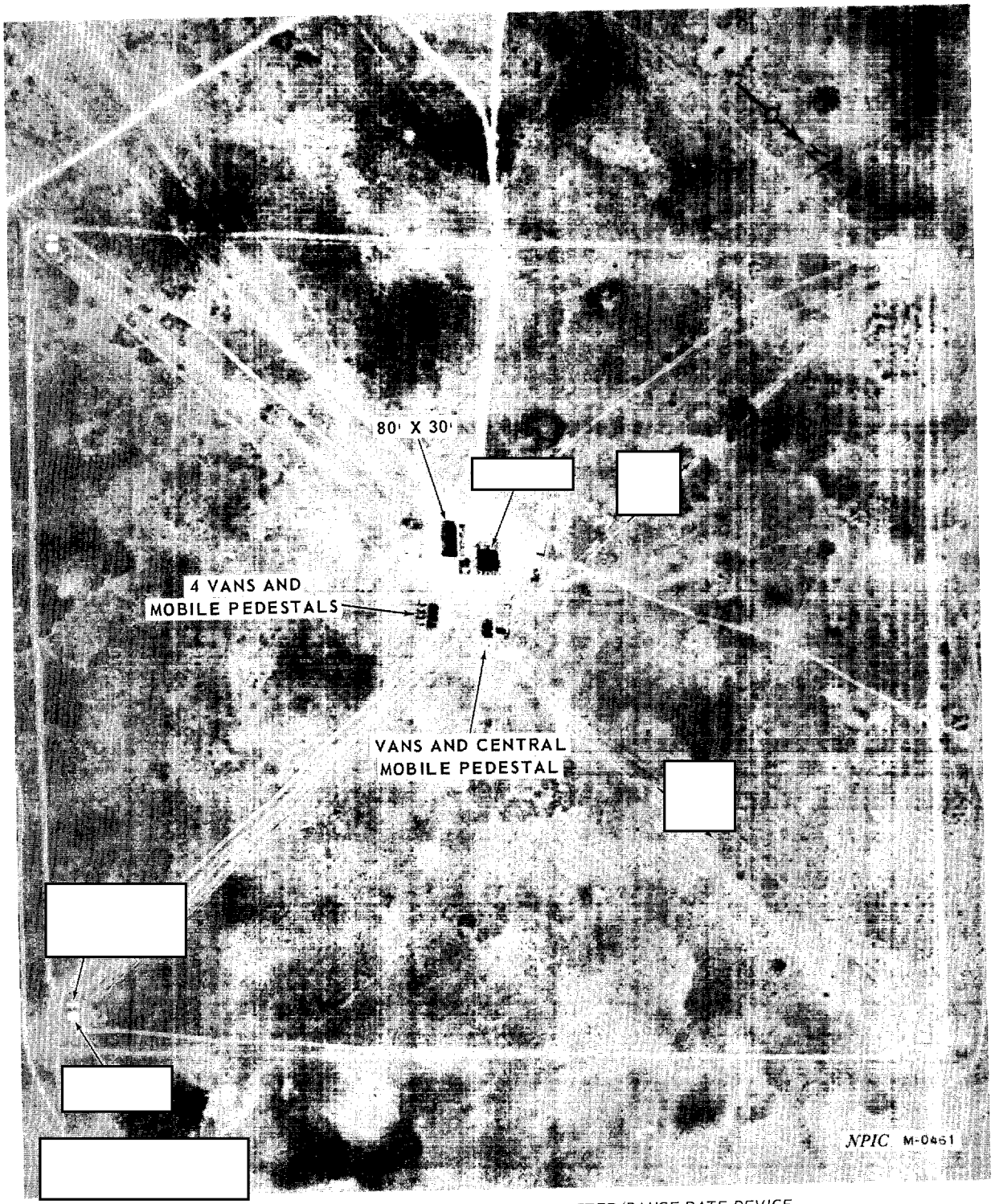

FIGURE 4. LAUNCH COMPLEX C INTERFEROMETER/RANGE-RATE DEVICE.

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of the perpendicular bisecting legs is [redacted] and the base leg length is approximately 2,800 feet. The corner hardstands are connected to the central vans by buried cables. The device is connected to the main Tracking Facility by 2 buried cables.

In conclusion, while the interpretability of the available coverage does not permit identification of specific antennas, mensuration data has confirmed that the antenna positions on the roofs are large enough to mount a SHIP WHEEL/FIRE WHEEL dish. This is also true of the 5 pedestals in front of the instrumentation building. At similar facilities, where coverage has permitted determination of the type of antennas mounted on the roof of the multiposition instrumentation building, the antennas have been telemetry arrays. This would seem to indicate that if SHIP WHEEL/FIRE WHEEL antennas are at the Launch Complex C Tracking Facility, they will be positioned on the pedestals in front of the instrumentation building.

REFERENCES

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PHOTOGRAPHY

[redacted]

MAPS OR CHARTS

USATC series, scale 1:200,000

REQUIREMENT

NSA/SOC/R24-68

NPIC PROJECT

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